Briefing: City of Victor Harbor and C-PREP - Renewable power - proof of concept

Overview

Purpose

This brief is to outline the City of Victor Harbor's solar panel retrofitting program and the R&D opportunity it offers for renewable energy developments. It is suggested that the R&D effort be undertaken in conjunction with Adelaide University's Centre for Energy Technology.

Audience

Adelaide University, Centre for Energy Technology
CEO - City Of Victor Harbor
CEO - Alexandrina Council
CEO - Yankalilla Council
CEO - Kangaroo Island Council
CEO – ZEN Home Energy Systems

In this document

This document contains the following topics.

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Background

Description In June 2008 following the Local Government Association's briefing on **Climate Change,** Council began investigating what could be done to (a) lower energy bills and (b) reduce the area's carbon footprint. Councils were told they would be in the vanguard. Failure to act could incur economic penalties.

Problem How could Council lessen the use of carbon based fuels and encourage ratepayers that reducing the areas carbon footprint is a necessity. How to relay the urgency of the LGA's message to ratepayers on the Fleurieu and KI.

History Failure to address Climate Change had to be balanced against economic possibilities. Policy had to be drafted and plans commenced. Solar panels and wind turbines - the immediate choice. Dr. Andrew Blakers (ANU) had written a 2002 paper outlining the benefits of retrofitting solar panels to existing buildings. The small eastern Australian council of Towong had instigated a retrofit program in 2008 - taking advantage of the federal solar rebate scheme. The City of Victor Harbor then put in train a solar panel retrofit program based on the Towong model. The entire program was founded on a bulk purchase under the current Federal Solar panel rebate scheme.

Urgency Council prepared papers and held public forums to gauge ratepayer support. It also sought neighbouring council patronage to boost numbers to drive the solar panel price down. Council approved the Community Purchase of Renewable Energy Program – C-PREP in March 2008. The race was to get the federal approval paperwork completed - before the closing date of Jun 30, 2009.

Potential impact If Council did nothing it would have missed the benefits of being an early mover and remained in line for any carbon based penalties. C-PREP managed to get a 1 kWh solar system, roof mounted for $1995.00 plus an ETSA meter of $380.00. Each ratepayer also paid a $75.00 registration fee. In so doing C-PREP created two jobs immediately with a branch of the successful supplier/ installer opening in Victor Harbor. Following the initial rush of 1000 registrations an additional 14 jobs are expected in installation. Once installed the reduction in carbon based energy use is measurable as is the reduction in energy bills which has an economic flow on for the community.

Key Issues

Overview Key Issues

- Ongoing carbon footprint reduction
- Creating a renewable industry
- Funding
- Partners

Key issue: On-going program

During this program we have seen the price of PVPs fall 15%. It is opportune to follow the first program with a secondary one. Either the fitting of additional solar panels and or the addition of wind turbines. A local engineer has developed a Savonius wind turbine. It is almost silent and can deliver all the energy needed by a single house in certain conditions. It is also scalable. At Council's annual Energy Fair – interest in the device was a highlight. The development of a wind/solar "energy plant" is now feasible and desirable.

Key issue: Local renewable energy industry

The attached picture of a hybrid lighting pole is a first suggestion. It is powered by both PVPs and a Savonius turbine. It is easily scalable and a larger unit could be mounted in every council car park to deliver energy into the building while at the same time lighting the surrounds. There are now several wind solutions available. Windpod and Hushwind being but two. The locally made Savonius turbine also offers the possibility of local jobs.

Key issue: Funding

Always difficult, Council has made a start with C-PREP registrations being matched by ZEN. This provides a base as we have 1000 registrations to date. Minister Wong has announced that Councils can attract $500k for approved programs, under the Climate Change banner. It is anticipated that the adjoining councils will support the initiative. It may also be feasible for the Local Government Authority to invest some of its R&D funds on behalf of all SA councils.

Key issue: Partners

1. The City of Victor Harbor
2. Alexandrina Council
3. Yankalilla Council
4. Kangaroo Island Council
5. ZEN Home Energy Systems
6. The Local Government Authority (LGA)

Summary and Next Steps

Summary: Key issues

The public response to cheaper PVPs has been robust. C-PREP addresses climate change while simultaneously enabling job creation. The issue is how to maintain the impetus now that Federal funding has ceased. Once the initial program winds down it would be negligent to miss any follow-on economic opportunities. C-PREP's second initiative could be the design and construction of a hybrid sol/wind "renewable energy unit" that could be deployed in all council arenas and then scaled to allow - C-PREP Mk 2 - to add to the initial ratepayer installed base - to edge the region towards grid parity and greatly reduce the region's carbon footprint.

Decisions

The abovementioned parties are asked to agree the following

- the direction
- the project or projects
- the methodology

Next steps

Council approval
Centre for Energy Technology to outline cost of a proof of concept
Evaluation of prototype models
Partners to agree on scope
Councils to jointly apply for Federal funding
Development of prototype unit

Ends.